

2020 Long-Term Available Transfer Capability (ATC) Update

November 4, 2020



Scenarios in the 2020 ATC Update

- Long-Term ATC Base Case
 - Covers the post 13 month time horizon
 - Completed annually to meet BPA’s obligation under the Long Term ATC Methodology to perform an annual update

2020 ATC Update			
Season	Stress	Wind	CER
January	Upper C	On	On
January	Lower C	On	On
January	Lower Snake	On	On
May	Lower C	Off	On
May	Lower Snake	Off	On
May	Lower C	On	On
May	Lower Snake	On	On
August	Upper C	Off	Off
August	Lower C	Off	Off
August	Lower Snake	Off	Off
August	Upper C	On	Off
August	Lower C	On	Off
August	Lower Snake	On	Off
13 Scenarios			



Assumptions in the 2020 ATC Update

- Base cases: 2025 & 2030 January, May, and August
 - Allows for forecasted geographical growth factors
 - Models upcoming coal plant retirements, while accounting for remaining long term firm transmission rights
 - Reflects long term unit outages at Upper Columbia resources
- Peak load cases: reduction in flows to California for scenarios with limited generation
- Off-peak load cases: Merit order dispatch displaces highest cost resources



More Assumptions in the 2020 ATC Update

- No new major generating resource additions
- Schultz-Wautoma 500 kV series capacitor in-service 2025 & 2030
- 445 MW of new long-term firm and 449 MW of redirected transmission commitments made since the 2019 ATC Update
- Regional (Area 40) load growth:
 - ~1000 MW peak growth in 5 year cases
 - ~1000 MW peak growth in 10 year cases



More Assumptions in the 2020 ATC Update

- No changes to Flowgate TTCs
- Assumption adjustments based on historical analysis:
 - Mid Columbia hydro seasonal outputs reduced
 - Lewis River hydro outputs increased in Winter/Spring
 - Lower Snake hydro peak output decreased in Spring
 - Western Montana Hydro (Hungry Horse/Libby) increased in Spring



Results & Observations

I-5 N>S Flowgates:

South of Custer, Raver to Paul, Paul to Allston, South of Allston

Resulting in decrease in ATC:

- Summer peak load forecast increase in Portland area
- Newly granted LT firm rights from Northern Intertie



More Results & Observations

Central Washington N>S Flowgates:

North of Hanford

Resulting in decrease in ATC:

- Addition of Schultz-Wautoma series capacitor in 5 year case impacts near term ETC values
- Expiration of LT rights reduced generation at south end of the path

North of John Day

Resulting in decrease in ATC:

- Spring load forecast increase in Portland area
- Increased difference between 5 and 10 year values resulted in steeper growth values



More Results & Observations

Oregon/Washington E>W Flowgates:

West of McNary, West of Slatt

Resulting in variations in ATC:

- 5 year cases had increased exports to California, and Portland area load increases. 10 year cases had decreased exports to California.

Growth factor changed from positive to negative. Less ATC in near term, but more in the out years.

West of John Day

Resulting in variations in ATC:

- Lower exports on PDCI in 10 year case. Less ATC in near term, more ATC in the out years.



More Results & Observations

Oregon/Washington E>W Flowgates:

West of Lower Monumental

Resulting in increase in ATC:

- Reduction in Lower Snake peak output for Spring scenarios

West of Hatwai

Resulting in decrease in ATC:

- Lower Columbia peak output for Spring scenarios reduced
- Western Montana hydro generation output for Spring scenarios increased



More Results & Observations

Winter Flowgates:

Cross Cascades North E>W

Resulting in increase in ATC:

- Seattle area winter peak forecasts were lower than last year

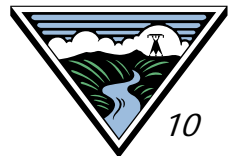
Cross Cascades South E>W

Changes to growth factors resulted in variations in ATC across 10 year horizon.

North of Echo Lake S>N

Resulting in increase in ATC:

- Seattle area winter peak forecasts were lower than last year



New Long-Term ATC Values

ATC For Posting Following Release of 2020 ATC Update										
Path Name	TTC	2022	2023	2024	2025	2026	2027	2028	2029	2030
South of Allston N>S -- BPA	2,115	20	130	128	162	159	157	154	151	148
Cross Cascades North E>W	10,250	834	932	825	816	807	847	838	829	820
West of Lower Monumental E>W	4,200	503	498	297	300	302	326	328	331	333
Cross Cascades South E>W	7,500	982	968	967	1019	1114	1072	1007	942	875
North of Hanford N>S	4,450	590	613	681	742	797	885	957	1016	1065
North of John Day N>S	8,800	272	280	255	299	343	404	446	488	530
Paul-Allston N>S	2,400	711	711	710	756	768	780	791	802	813
Raver-Paul N>S	1,450	13	10	0	0	0	18	26	34	42
West of McNary E>W	5,230	2392	2250	2173	2180	2187	2212	2218	2225	2232
West of Slatt E>W	4,670	1099	1081	1035	1051	1066	1083	1099	1115	1132
West of John Day E>W	4,530	684	684	682	723	784	861	925	989	1051
South of Custer N>S	900	0	0	0	0	0	0	0	0	0
North of Echo Lake S>N	2,800	194	204	199	195	190	185	180	175	170
West of Hatwai E>W	3,650	409	421	192	207	221	236	251	266	280



Long-Term ATC Deltas

Change in ATC For Posting Following Release of 2020 ATC Update										
Path Name	TTC	2022	2023	2024	2025	2026	2027	2028	2029	2030
South of Allston N>S -- BPA	2,115	(110)	(16)	(32)	(48)	(67)	(85)	(103)	(120)	(136)
Cross Cascades North E>W	10,250	304	301	268	259	241	225	207	189	170
West of Lower Monumental E>W	4,200	394	394	297	300	302	326	328	331	333
Cross Cascades South E>W	7,500	(385)	(236)	(153)	(63)	71	46	20	(6)	(34)
North of Hanford N>S	4,450	(526)	(531)	(489)	(454)	(428)	(368)	(322)	(289)	(264)
North of John Day N>S	8,800	(349)	(348)	(301)	(264)	(227)	(191)	(156)	(121)	(86)
Paul-Allston N>S	2,400	(201)	(201)	(189)	(176)	(165)	(154)	(144)	(134)	(124)
Raver-Paul N>S	1,450	(238)	(240)	(209)	(208)	(206)	(200)	(190)	(180)	(170)
West of McNary E>W	5,230	(239)	(184)	(176)	(120)	(70)	(17)	35	89	145
West of Slatt E>W	4,670	(271)	(265)	(222)	(181)	(143)	(102)	(63)	(23)	18
West of John Day E>W	4,530	(268)	(203)	(179)	(135)	(71)	(2)	65	132	198
South of Custer N>S	900	(18)	(16)	(13)	(11)	(8)	(6)	(3)	(1)	0
North of Echo Lake S>N	2,800	86	66	69	72	75	78	80	83	86
West of Hatwai E>W	3,650	(212)	(211)	(233)	(229)	(226)	(222)	(218)	(214)	(210)



Immediate Next Steps

- 2020 ATC Update results will be released and applied to all pending long term transmission service requests (TSRs), using the PTDF-based evaluation described in section 8 of the *ATC and AFC Methodologies for the Planning Time Period, V14* document
- Postings on the external site will be updated over the next month:
<https://www.bpa.gov/transmission/Reports/TransmissionAvailability/Pages/default.aspx>
 - ATC, AFC and Conditional Firm Inventory
 - AFC/ATC Less Pending Queued Request Inventory
 - Long Term Pending Queue
 - Long Term Original and Redirect PTDF Calculators
 - Long Term Power Transfer Distribution Factors (PTDF) Table

